

367 PU M Sc Applied Geology

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Hydrothermal ore deposits often occur in the form of:-

- Vein
- Bed
- Dyke
- Stock

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In constriction type of strain, λ_2 is:-

- < 1
- $= 0$
- > 1
- $= 1$

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Which is the correct sequence of terrestrial planets from sun?

- Venus, Earth, Mars, Mercury
- Mercury, Earth, Venus, Mars
- Mercury, Venus, Earth, Mars
- Mars, Venus, Earth, Mercury

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In case of single and round hinged multi-layer buckle fold, the competent and incompetent layer will show respectively:-

- Class 1 & Class 2
- Class 1B and Class 1C - fold of Ramsay
- Class 2 and Class 3 fold
- Class 1 & Class 3

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Which one of the followings could not be used to find out depositional top of a bed?

- Pillow lavas
- Contact between two lithologies
- Ripple marks

- Cross bedding

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Pyroclastic deposits are usually found associated with:-

- Shield volcano
- Pahoehoe flow
- Explosive volcano
- Ropy lava

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Lingula is an example of:-

- Index fossils
- Ichnofossils
- body fossils
- Living fossils

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Which of the following mineral combination cannot exist in thermodynamic equilibrium?

- Quartz, feldspar and tourmaline
- Quartz, olivine and pyroxene
- Kynite, sillimanite and andalusite
- Plagioclase, augite and magnetite

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India is a major producer of one of the following metals:-

- Gold
- Uranium
- Aluminium
- Lead

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If the water table in a well is constant due to no flow, the condition is known as:-

- Equilibrium
- Hydrostatic
- Hydrophilic

- Hydrodynamics

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In 2015, World' most polluted city is identified as:-

- Beijing
- Dhaka
- Delhi
- Karachi

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Pull apart basin is developed due to:-

- Reverse faulting
- Strike slip faulting
- Normal faulting
- Oblique faulting

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Elongation (ϵ) is measured as the ratio between:-

- final length to initial length
- change in length to initial length
- change in length to final length
- initial length to final length

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Light year is a unit of:-

- distance
- time
- light
- light intensity

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Hybrid joint is developed by:-

- mode II & Mode III
- mode-I
- Mode I & Mode III

- Mode II - fracture propagation

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One of the following sulphide minerals can be translucent or transparent:-

- Galena
- Chalcopyrite
- Sphalerite
- Pyrite

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In a lateritic bauxite deposit, the uppermost litho-unit is:-

- laterite
- bauxite
- lithomarge
- partially weathered bedrock

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The Deccan traps shows maximum thickness towards:-

- North
- East
- West
- South

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Belemnite belongs to:-

- Cephalopoda
- Brachiopoda
- Trilobita
- Gastropoda

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A hand specimen of a rock contains quartz and garnet. What lustre they show?

- Resinous and vitreous
- Vitreous and adamantine
- Adamantine and vitreous

- Vitreous and resinous

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Which of the following Mollusca are entirely marine organisms?

- Cephalopoda
- Gastropoda
- Bivalvia
- none

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One of the following metals is generally extracted as a byproduct from sulphide ore of copper.

- Gold
- Silver
- Cadmium
- Gallium

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One of the following economic minerals is commonly associated with high grade metamorphic rocks.

- Magnetite
- Talc
- Chromite
- Graphite

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The largest carbon reservoir on earth is:-

- oceans
- limestone
- soil
- atmosphere

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Which one of the following is not produced by organic activity?

- Chalk
- Gypsum
- Coral

- Chert

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One of the following oxide minerals can be translucent or transparent.

- Chromite
- Pyrolusite
- Cassiterite
- Wolframite

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Sound waves in air are:-

- electromagnetic
- transverse
- polarised
- longitudinal

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Why do magmas rise toward Earth's surface?

- Magmas have higher content of pyroxenes than the surrounding rocks
- Most magmas are richer in silica than most crustal and upper mantle rocks
- Magmas are more viscous than solid rocks in the crust and upper mantle
- Magmas, being melts and having gases, are less dense than the adjacent solid rock

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A coarse grained rock mainly composed of orthopyroxene and plagioclase is called as:-

- Lherzolite
- Norite
- Harzburgite
- Gabbro

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The youngest succession of Jurassic rocks in Kachchh basin is known as ____ Formation.

- Patcham
- Katrol
- Chari

- Umia

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A crystal face is parallel to a and c-axis and intersects the b crystallographic axis at $4 b_0$ length. What will be its Miller index?

- (040)
- (100)
- (101)
- (010)

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Which mineral is most stable for weathering?

- olivine
- halite
- hematite
- calcite

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Which of the following regions would have thicker crust?

- Precambrian Shield
- Mid Oceanic ridges
- Mountain belt
- Island arc

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The water in the soil water zone held by surface tension forces is known as:-

- Capillary water
- Groundwater
- Hygroscopic water
- Phreatic water

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The least number of fossils are found in rocks formed during which era?

- Cenozoic
- Mesozoic

- Proterozoic
- Paleozoic

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Which of the following is a concordant intrusive body?

- Stock
- Cone sheet
- Ring dike
- Lopolith

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Which one of the following would not be the effect of the climate change?

- increased frequency of cyclones
- sea level rise
- tsunami
- uneven distribution of rainfall

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If attitude of overlying and underlying sedimentary beds across an unconformity surface is measured respectively as $089^{\circ}/08^{\circ}N$ and $025^{\circ}/46^{\circ}NW$, then the unconformity can be called as:-

- Paraconformity
- Angular unconformity
- Nonconformity
- Disconformity

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Which is the oldest fossil?

- Trilobita
- Graptoloidea
- Fish
- Algae

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The largest bauxite mines in India is located at:-

- Korba, Madhya Pradesh

- Panchpatmali, Orissa
- Yercaud, Tamil Nadu
- Kolli Hills, Tamil Nadu

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Which of the following contains the highest amount of uranium?

- Gabbro
- Granite
- Diorite
- Peridotite

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The unconsolidated deposits or bedrock that continuously has a temperature below 0°C is called as:-

- Permafrost
- Karst topography
- Ice sheets
- Bad land topography

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The susceptibility of diamagnetic material is:-

- negative
- zero
- 5
- positive

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Sudden cooling of magma erupted on the Earth's surface results in _____ texture.

- hypidiomorphic
- porphyritic
- aplitic
- ophitic

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The plutonic equivalent of trachyte is:-

- Diorite

- Syenite
- Granite
- Gabbro

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Slices of oceanic crust that have been emplaced (obducted) onto continental crust:-

- Ophiolite
- Granulite
- Mylonite
- Migmatite

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Most likely to result in an organism not being fossilized:-

- preservation from decay
- lack of hard parts
- being a water-dwelling organism
- rapid burial after death

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Which one of the following mineral does NOT belong to the oxide group?

- Ilmenite
- Beryl
- Magnetite
- Corundum

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Which of the following is not a green house gas?

- Methane
- Nitrous oxide
- Argon
- Ozone

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Copper is not a constituent element of one of the following ore minerals:-

- Pyrrhotite

- Covellite
- Bornite
- Chalcocite

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Earth's crust consists of continental and oceanic parts. Which of the following statement is not true?

- Oceanic crust is younger than continental crust
- Oceanic crust is more metamorphosed compared to continental crust
- Oceanic crust has global layering while continental crust doesn't
- Oceanic crust is thinner compared to continental crust

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In a thin section of extrusive igneous rock, well developed ovine crystals are surrounded by glass, the resultant texture is called:-

- Hyaloporphyritic
- Xenoblastic
- Porphyritic
- Poikilitic

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Different mineral assemblages of rocks metamorphosed under the same physical conditions (P & T) represent:-

- different metamorphic grade
- different types of metamorphism
- different zones of metamorphism
- different bulk composition

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In Brachiopoda two valves are jointed at:-

- Commisure line
- Hinge line
- Didictor
- Posterior

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The measure of suspended and colloidal matter in water like clay, silt, organic matter and microscopic organisms is:-

- pH
- Turbidity
- Conductivity
- Total dissolved solids

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Thrust sheet that travelled very large distance along the thrust fault is known as:-

- Allochthonous unit
- Para-autochthonous unit
- Autochthonous unit
- Para-allochthonous unit

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The inner core is most likely composed of:-

- silicon
- sulphur
- oxygen
- iron

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A horizontal conduit used for intercepting and collecting groundwater by gravity flow is:-

- Drilled wells
- Infiltration galleries
- Collector wells
- Horizontal wells

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The ability of a solid to allow fluids to pass through it is called:-

- conductivity
- transmissivity
- porosity
- permeability

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The Paleozoic does not include the:-

- Ordovician
- Jurassic
- Mississippian
- Permian

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A rock containing Phenocrysts of Olivine set in a fine grained matrix of pyroxene and plagioclase is known as:-

- Basalt
- Norite
- Diorite
- Gabbro

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224 PU_2016_367_M

Electronegativity of elements increases:-

- From right to left of the Periodic table
- In atoms that have partially filled outer shell
- From left to right of the Periodic table
- With decrease in neutrons

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235 PU_2016_367_M

Which one of the following is permitted in the Miller's indices?

- Real numbers
- Zero
- Infinity
- Fractions

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248 PU_2016_367_M

A fold which is concave upward is called as:-

- Antiform
- Anticline
- Syncline
- Synform

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253 PU_2016_367_M

If the strike of a dip slip normal fault is $N30^{\circ}E$, then the trend of the net slip will be:-

- S30^oW
- N60^oE
- N30^oW
- S60^oE

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Plagioclase having 30 to 50 % anorthite content is known as:-

- Oligoclase
- Andesine
- Anorthoclase
- Labradorite

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246 PU_2016_367_M

Predominant magma that erupted during the Deccan Volcanism is:-

- Alkali basalt
- Trachyte
- Tholeritic basalt
- Andesite

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Which of the following mineral is a chain silicate?

- Olivine
- Augite
- Anorthite
- Biotite

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Continental crust is higher in elevation than oceanic crust because:-

- It is more buoyant than oceanic crust
- It is denser than oceanic crust
- It is older than oceanic crust
- It is younger than oceanic crust

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Metamorphic grade refers to:-

- Intensity of metamorphism
- Texture and structure of the rock types
- Particular rock type
- Critical mineral assemblages

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The average thickness of a lithospheric plate is approximately:-

- 8 km
- 100 km
- 35 km
- 5 km

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Structurally quartz is a:-

- Framework silicate
- Isolated silicate
- Chain silicate
- Ring silicate

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241 PU_2016_367_M

The major minerals present in granite are:-

- Nepheline, quartz and labradorite
- Microcline, quartz and albite
- Orthoclase, quartz and nepheline
- Sanidine, quartz and labradorite

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Volcanic equivalent of the plutonic rock granodiorite is:-

- Dacite
- Rhyolite
- Rhodacite
- Andesite

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If the axial planar cleavage is steeper than the dip of the fold limb, then limb is called:-

- Back limb
- Inverted limb
- Overturned limb
- Normal limb

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Metamorphic facies are defined by the:-

- Particular rock type
- Pressure-Temperature condition
- Critical mineral assemblages
- Texture and structure of the rock types

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Which one of the following mineral belongs to spinel group?

- Zircon
- Hematite
- Ilmenite
- Magnetite

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259 PU_2016_367_M

Anhydrous rocks are characteristically present in rocks belonging to:-

- Greenschist facies
- Granulite facies
- Amphibolite facies
- Eclogite facies

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Which one of the following minerals crystallize in the Orthorhombic system?

- Aragonite
- Rhodochrosite
- Dolerite
- Calcite

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222 PU_2016_367_M

A crystal appears unchanged when rotated 180°. Such an axis of rotation is axis of:-

- 2-fold symmetry
- 3-fold symmetry
- 4-fold symmetry
- 1-fold symmetry

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292 PU_2016_367_D

Which of the followings is NOT a supercontinent?

- Rodinia
- Gondwana
- Pangea
- Purana

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261 PU_2016_367_D

In the triangular ACF diagrams used to designate the mineralogical and chemical composition of metamorphic facies, the 'A' apex represent:-

- $Al_2O_3 + Na_2O + K_2O$
- $Al_2O_3 + Fe_2O_3 - K_2O$
- $Al_2O_3 + Fe_2O_3 - Na_2O - K_2O$
- Al_2O_3

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If an aggregate of sediment consists of particles that are all about the same size, it is said to be:-

- Sandstone
- Well sorted
- Lithified
- Poorly rounded

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265 PU_2016_367_D

Sedimentary breccia is a rare rock type because:-

- Clay is less abundant than other sedimentary particles
- Sand deposits are typically well sorted
- Feldspars are chemically unstable
- Gravel is rounded quickly during transport

85 of 100

281 PU_2016_367_D

The process whereby hydrogen and hydroxyl ions of water replace ions in minerals is:-

- Hydrolysis
- Oxidation
- Carbonization
- Lateritisation

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285 PU_2016_367_D

Geomorphic systems are:-

- Open systems
- Closed systems
- Isolated systems
- Open, Closed or Isolated systems

87 of 100

295 PU_2016_367_D

Which of the following is NOT located along a convergent plate-boundary?

- Andean Mountain chain
- Indonesian islands
- Red sea
- Himalaya mountain chain

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279 PU_2016_367_D

In uniform flat rocks, drainage patterns tend to be:-

- Dendritic
- Radial
- Trellis
- Braided

89 of 100

260 PU_2016_367_D

The reaction Ferrosilite + Diopside = Enstatite + Hedenbergite, is a kind of:-

- Devolatilization reaction
- Oxidation reaction
- Ion-exchange reaction
- Solid-solid net-transfer reaction

90 of 100

290 PU_2016_367_D

Feldspar and quartz both have _____ structure but in feldspar some of the silica tetrahedral are replaced by _____.

- framework, Alumina tetrahedral
- double-chain, Na+Al
- single-chain, Mg-chain
- isolated tetrahedra, Na+Al

91 of 100

288 PU_2016_367_D

Miller indices, for a face whose Weiss symbols is $2a:3b:1c$, are:-

- (326)
- (321)
- (123)
- (236)

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286 PU_2016_367_D

Which of the following minerals is most susceptible to chemical weathering?

- Quartz
- Olivine
- K-feldspar
- Biotite

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297 PU_2016_367_D

Meteorites are generally originated from:-

- the asteroid belt
- rocky planets like Venus
- comets
- moon

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Mud cracks are most likely to form by:-

- Rapidly changing patterns of erosion and deposition
- Fast-moving water that gradually slowed down
- Gently oscillating waves

- Periodic exposure to the air and drying out

95 of 100

273 PU_2016_367_D

Which would be least likely to indicate a desert environment?

- Limestone
- Large cross-beds
- Evaporite
- Mud cracks

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282 PU_2016_367_D

Glacial clay is dominantly:-

- Kaolinite
- Illite
- Quartz
- Feldspar

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299 PU_2016_367_D

Crust is generally thicker under the mountains. This observation can be explained by the theory of:-

- heat flow
- isostasy
- Deformations
- faster river-incision

98 of 100

276 PU_2016_367_D

A drainage pattern in which streams flow in and out of lakes with irregular flow directions is:-

- Rectangular
- Radial
- Longitudinal
- Deranged

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283 PU_2016_367_D

Which of the following can act as a local base level?

- a stream
- a resistant strata
- a lake

- stream, lake and resistant strata

100 of 100

274 PU_2016_367_D

Which of these environments can produce cross beds?

- River Deltas
- Sand dunes
- Alluvial fans
- All of the above